

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-6, 8-11, 13 and 14 are currently under consideration. Claims 7, 12, and 15 have been withdrawn from consideration. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Claim for Priority

It is gratefully acknowledged that the Examiner has recognized Applicants' claim for foreign priority and the receipt of the certified copies. In view of the fact that the claim has been perfected, no additional action is required from Applicants at this time.

Drawings

It is gratefully acknowledged that the Official Draftsperson has approved the formal drawings submitted by Applicants. Since the drawings comply with the requirements of the U.S.P.T.O., no further action is necessary.

Acknowledgement of Information Disclosure Statement

The Examiner has acknowledged the Information Disclosure Statement filed on March 26, 2002. An initialed copy of the PTO-1449 has been received from the Examiner. No further action is necessary at this time.

Rejection Under 35 U.S.C. § 102

Claims 1 and 10 stand rejected under 35 U.S.C. § 102 as being anticipated by Rhoads (U.S. Patent No. 1,524,150). This rejection is respectfully traversed.

The Examiner states that Rhoades shows a plurality of intake and exhaust valves for opening and closing intake and exhaust ports of combustion chambers provided at cylinder head portions, a plurality of valve camshafts supported at the crankcase portions, a plurality of valve-operating members and a plurality of oscillating arms. Applicants submit that claims 1 and 10 are not anticipated by this reference.

Claim 1 now describes a valve system for an internal combustion engine having a combination of elements, including a pair of cylinder banks, a crankcase portion for supporting a crankshaft, a cylinder block portion and a cylinder head portion, a plurality of intake and exhaust valves, a plurality of valve camshafts, driven gears connected to the camshafts, a driving gear connected to the crankshaft, the driven gear being driven by the driving gear through idle reduction gears, a plurality of valve operating members and a plurality of oscillating arms. Applicants submit that the Rhoades reference does not show this combination of elements. In particular, this reference does not describe the driving gear, driven gears, and idle reduction gears, which cause the camshafts to be driven by the crankshaft. These gears are seen in Figure 4 and described in paragraph [0035] of the specification. As noted there, a speed reduction rate of $\frac{1}{2}$ is accomplished by driving the camshaft through the reduction gears.

While the Rhoades reference indicates that the rotation of the crankshaft is communicated to the camshaft (page 2, lines 84-88), there is no discussion of gears connected to each shaft being connected through idle reduction gears. Since these features are not shown in Rhoades, claim 1 is not anticipated thereby and accordingly, is considered to be allowable.

Claim 10 is an independent claim similar to claim 1 and in particular includes the driving gear, driven gear, and idle reduction gears connecting the camshaft and the crankshaft. Accordingly, claim 10 is allowable for the same reasons recited above in regard to claim 1.

Rejection Under 35 U.S.C. § 103

Claims 2-6, 8, 9, 11, 13 and 14 stand rejected under 35 U.S.C. § 103 as being obvious over Rhoades in view of Woodgate (Great Britain 138,803). This rejection is respectfully traversed.

Claims 2-6, 8, 9, 11, 13 and 14 depend from allowable claims 1 and 10 and as such are also considered to be allowable. In addition, each of these claims recites other features of the valve system during the operation of the intake and exhaust valves and the camshafts. Accordingly, these claims are additionally allowable.

Furthermore, the Examiner cited the Woodgate reference to show that it is known to use a plurality of camshafts to improve engine power. However, this reference also fails to show the gearing arrangement connecting the camshaft and crankshaft and accordingly,

the combination of Rhoades and Woodgate does not teach the combination of elements described in claims 1 and 10 and the claims which depend therefrom since the references do not teach such a gearing arrangement. Further, there is no indication of any need for such a gearing arrangement so that these claims would not be obvious over this combination of references either.

No Prosecution History Estoppel

Claims 1 and 10 are hereby presented in independent form. No prosecution history estoppel would apply to the interpretation of the limitations set forth in claims 1 and 10 and the claims that depend therefrom in view of the fact that this subject matter has been continuously presented since the original filing date of the present application.

Conclusion

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination. In view of this, reconsideration of the rejections and allowance of all the claims are respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert F. Gnuse (Reg. No. 27,295) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By James M. Slattery #41,458
James M. Slattery, #28,380

JMS/RFG/ags
0505-0923P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000